

IN THE CLAIMS:

Claims 1-44 (canceled)

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Claim 45 (new): Apparatus for treatment of a treatment area exhibiting a skin disorder and associated inflammation lying at or near the surface of the skin of the patient comprising:

a) at least one light source comprising spectral emittance means for delivering to the treatment area a spectral emittance of light energy in a plurality of discontinuous applications in at least the substantial absence of UV radiation at a dose of at least 9 Joules/cm<sup>2</sup> sufficient to effectively treat the skin disorder, wherein the spectral emittance is in at least one spectral band in which one of said spectral bands is in the range of 405 to 440nm;

b) an optical system for collecting and shaping the spectral emittance in advance of delivering the spectral emittance to the treatment area; and

c) electronic means for controlling parameters associated with the spectral emittance.

Claim 46 (new): The apparatus of claim 45 wherein each of the spectral bands are narrow spectral bands.

Claim 47 (new): The apparatus of claim 45 further comprising cooling means for removing excess heat from the treatment area of the skin disorder during said discontinuous applications.

Claim 48 (new): The apparatus of claim 45 wherein the dose is at least 18 Joules/cm<sup>2</sup>.

Claim 49 (new): The apparatus of claim 45 wherein the dose is at least 36 Joules/cm<sup>2</sup>.

Claim 50 (new): The apparatus of claim 45 wherein the light source emits UV radiation, said apparatus further comprising filtering means for removing at least substantially all of the UV radiation emitted by the light source.

Claim 51 (new): The apparatus of claim 45 wherein the spectral emittance means and the optical system combine to deliver a power density of at least 40mw/cm<sup>2</sup> measured at a distance from the light source of 30cm.

Claim 52 (new): The apparatus of claim 45 wherein said light source delivers a principal skin disorder treating effective spectral emittance of light energy range in the range of 405 to 450nm.

Claim 53 (new): The apparatus of claim 45, wherein said parameters are selected from the group consisting of duration, radiated power and emitted spectral bands of said spectral emittance.

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Claim 54 (new): The apparatus of claim 45, further comprising:

a mechanical fixture for holding said light source at an adjustable distance and direction related to a treatment area of the skin disorder.

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cont.  
Claim 55 (new): The apparatus of claim 45 wherein the light source is spaced apart from the treatment area.

Claim 56 (new): The apparatus of claim 45 comprising means for adjusting the distance of the apparatus from the treatment area to thereby adjust the size of the treatment area.

Claim 57 (new): The apparatus of claim 45 wherein the light source comprises means for delivering the spectral emittance of energy to multiple locations in the treatment area.

Claim 58 (new): The apparatus of claim 57 wherein the treatment area is the head of a patient and the multiple locations include the sides of the face and the chin.

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Claim 59 (new): The apparatus of claim 45, wherein said spectral emittance has a power density of at least  $20\text{mW}/\text{cm}^2$ .

Claim 60 (new): The apparatus of claim 45 wherein said spectral emittance has a power density of at least  $40\text{mW}/\text{cm}^2$ .

Claim 61 (new): The apparatus of claim 45 wherein the spectral emittance is delivered for a minimum treatment time of 15 minutes.

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cont.  
Claim 62 (new): The apparatus of claim 61 wherein the treatment time is from 15 to 60 minutes.

Claim 63 (new): The apparatus of claim 45 wherein the spectral emittance means comprises means for delivering the spectral emittance at a power density of at least  $20\text{mW}/\text{cm}^2$  for at least 15 minutes.

Claim 64 (new): The apparatus of claim 45 wherein the treatment area of the skin disorder is at least  $200\text{ cm}^2$ .

Claim 65 (new): The apparatus of claim 45 further comprising an illumination head comprising at least two converging collimated beams from at least two directions, each of said beams generated by a separate light source positioned at a distance from said other at least one light source.

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Claim 66 (new): The apparatus of claim 45, wherein the optical system further comprises:

at least one optical element selected from the group consisting of a liquid filled light guide, a solid transparent light guide, a fiber bundle light guide and an array of lenses and mirrors for collecting and shaping said spectral emittance and for illuminating a treatment area at an adjustable distance, energy density and direction.

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cont.  
Claim 67 (new): The apparatus of claim 45, wherein said at least one light source is a gas discharge lamp.

Claim 68 (new): The apparatus of claim 45, wherein said at least one light source comprises at least one material selected from the group consisting of Gallium, Mercury and metal halides in the form of a gas mixture discharge lamp.

Claim 69 (new): The apparatus of claim 45, wherein said at least one light source is an Ion Krypton gas laser.

Claim 70 (new): The apparatus of claim 45, wherein said at least one light source further comprises at least one reflector for collecting and projecting the spectral emittance toward the skin disorder.

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Claim 71 (new): The apparatus of claim 70 wherein said reflector is selected from the group comprising of an elliptical cross-section cylindrical reflector, a parabolic cross-section cylindrical reflector, and an asymmetric aspheric reflector.

Claim 72 (new): The apparatus of claim 70, wherein said reflector comprises an elliptical cross-section reflector comprising a first focal point and a second focal point.

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cont.  
Claim 73 (new): The apparatus of claim 45, wherein said at least one light source further comprises two orthogonal cylindrical lenses for collecting and collimating the spectral emittance.

Claim 74 (new): The apparatus of claim 45, wherein the electronic means for controlling parameters associated with the spectral emittance comprises an integrated computer module.

Claim 75 (new): The apparatus of claim 74, wherein the integrated computer module further comprises a display unit for displaying an imaged illumination treatment area.

Claim 76 (new): The apparatus of claim 74 wherein the integrated computer module further comprises a display unit comprising a touch screen.

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Claim 77 (new): The apparatus of claim 45, wherein said at least one light source is at least one diode selected from the group consisting of violet/blue laser diodes and light emitting diodes (LED), and combinations thereof with a narrow spectral band emission in the range 405-440nm.

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cont.  
Claim 78 (new): The apparatus of claim 45, wherein said at least one light source is an array of diodes selected from the group consisting of violet/blue light emitting diodes (LED) and laser diodes, and red and green light emitting diodes (LED) and laser diodes.

Claim 79 (new): The apparatus of claim 45, wherein said at least one light source is selected from the group consisting of LED diodes, laser diodes and gas discharge lamps and combinations thereof.

Claim 80 (new): The apparatus of claim 45, wherein the spectral bands of the spectral emittance are in the violet/blue range and at least one spectral band in the green and red range.

Claim 81 (new): The apparatus of claim 45 wherein the skin disorder is selected from the group consisting of acne and seborrhea.

Claim 82 (new): A method of treating a treatment area exhibiting a skin disorder at or near the surface of the skin of a patient comprising:

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a) applying to the treatment area in a plurality of discontinuous applications a spectral emittance of light energy at least in the substantial absence of UV radiation at a dose of at least 9 Joules/cm<sup>2</sup> sufficient to effectively treat the skin disorder, said spectral emittance comprising at least one spectral band in which one of the spectral bands is in the range of 405 to 440 nm, while maintaining the treatment area at a patient acceptable temperature.

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Claim 83 (new): The method of claim 82 wherein the skin disorder is caused by skin disorder generating bacteria, said method comprising applying said spectral emittance of light energy for a time sufficient to facilitate the reaction of porphoryins produced by the bacteria and oxygen to produce peroxides which are toxic to the bacteria.

Claim 84 (new): The method of claim 83 comprising applying said spectral emittance of light energy at time periods which enable the porphoryins produced by the bacteria during the time period between each application to react with oxygen in the presence of said spectral emittance and consequently to produce peroxides and for the peroxides to kill the bacteria in sufficient amounts so as to reduce the mass of bacteria associated with the skin disorder, and repeating the application until the bacteria mass is reduced below a predetermined level.

Claim 85 (new): The method of claim 82 wherein the dose is at least 18 Joules/cm<sup>2</sup>.



Q17 Claim 86 (new): The method of claim 82 wherein the dose is at least 36 Joules/cm<sup>2</sup>.

Claim 87 (new): The method of claim 82 further comprising removing heat from the skin to maintain the skin at a patient acceptable temperature.

Claim 88 (new): The method of claim 82 comprising applying to the treatment area a spectral emittance of light energy which has had UV radiation filtered therefrom.

C/ Cont. Claim 89 (new): The method of claim 82 wherein each of the spectral bands are narrow spectral bands.

Claim 90 (new): The apparatus of claim 82 wherein the spectral emittance of light energy is delivered at a power density of at least 40mw/cm<sup>2</sup> measured at a distance from the light source of 30cm.

Claim 91 (new): The method of claim 82 comprising applying to the treatment area said spectral emittance of light energy principally in the range of 405 to 450nm.

Claim 92 (new): The method of claim 82, wherein said spectral emittance of light energy has a power density of at least 20mW/cm<sup>2</sup>.

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Claim 93 (new): The method of claim 82 wherein said spectral emittance of light energy has a power density of at least 40mW/cm<sup>2</sup>.

Claim 94 (new): The method of claim 82 comprising applying the spectral emittance of light energy for a plurality of discrete time periods.

Claim 95 (new): The method of claim 94 wherein the discrete time period is at least 15 minutes.

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cont.  
Claim 96 (new): The method of claim 95 wherein the discrete time period is from 15 to 60 minutes.

Claim 97 (new): The method of claim 94 comprising applying the spectral emittance at a power density of at least 20mW/cm<sup>2</sup> for at least 15 minutes.

Claim 98 (new): The method of claim 82 wherein the treatment area of the skin disorder is at least 200 cm<sup>2</sup>.

Claim 99 (new): The method of claim 82 comprising controlling parameters associated with the spectral emittance of light energy through an integrated computer module.

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Claim 100 (new): The method of claim 99, wherein the integrated computer module comprises a display unit for displaying an imaged illumination treatment area.

Claim 101 (new): The method of claim 100 wherein the integrated computer module further comprises a display unit comprising a touch screen.

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Claim 102 (new): The method of claim 82, wherein said at least one light source is at least one diode selected from the group consisting of violet/blue laser diodes and light emitting diodes (LED), and combinations thereof with narrow spectral band emission in the range 405-440nm.

Claim 103 (new): The method of claim 82, wherein said at least one light source is an array of diodes selected from the group consisting of violet/blue light emitting diodes (LED) and laser diodes, and light emitting diodes (LED) and laser diodes with spectral bands emission in the red and green range.

Claim 104 (new): The method of claim 82, wherein said at least one light source is selected from the group consisting of LED diodes, laser diodes and gas discharge lamps and combinations thereof.

Claim 105 (new): The method of claim 82, wherein the spectral bands of the spectral emittance are in the violet/blue range and at least one spectral band in the green and red range.

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Claim 106 (new): The method of claim 82 wherein the skin disorder is selected from the group consisting of acne and seborrhea.

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